Claims

1. Method of testing a substrate, in which a particle beam (2) is directed onto the substrate (8) and emitted secondary particles (9) are detected with a detector (5) and then evaluated, characterised in that the location (x_1, x_2) of the secondary particles emitted on the substrate relative to the position of the detector is taken into account during testing.

2. Method as claimed in Claim 1, characterised in that means (12) are provided for guiding the secondary particles from the substrate (8) to the detector (5), these means being controlled as a function of the location (x_1, x_2) of the emitted secondary particles (9) relative to the position of the detector (5).

3. Method as claimed in Claim 2, characterised in that the means (12) which guide the secondary particles are controlled in such a way that a detector signal (10) which is independent of the location (x_1, x_2) is set at the detector (5).

4. Method as claimed in Claim 1, characterised in that the particle beam (2) is deflected for scanning of the substrate.

5. Method as claimed in Claim 1, characterised in that the location (x_1, x_2) of the secondary particles emitted on the substrate relative to the position of the detector is taken into consideration during the evaluation.

6. Method as claimed in Claim 5, characterised in that the detector (5) produces a detector signal (10) which is compared with a desired signal during the evaluation.

7. Method as claimed in Claim 1, characterised in that the detector (5) produces a detector signal (10) which is based on the secondary particles (9) emitted at a specific location (x_1, x_2) on the substrate and the detector signal (10) is compared with a desired signal, the location (x_1, x_2) of the emitted secondary particles (9) relative to the position of the detector (5) being taken into consideration during the comparison.

8. Method as claimed in Claim 1, characterised in that the particle beam (2) is deflected in order to scan the substrate and the substrate (8) furthermore is retained on a movable table (14), the deflection taking place simultaneously and synchronised with the displacement of the table.

9. Method as claimed in Claim 3, characterised in that first of all a calibration is carried out in which the values for the control of the means (912) for guiding the secondary particles are determined and stored.

10. Method as claimed in claim 3, characterised in that the values for the control of the means (12) for guiding the secondary particles are calculated immediately before the detection by means of a location-dependent function.

11. Apparatus for testing a substrate with

- means (1) for producing a particle beam (2),

- a detector (5) for detecting secondary particles (9) emitted on the substrate by the particle beam and for producing a detector signal (10),

- means (12) for guiding the secondary particles (9) to the detector (5) and

- an arrangement (11) for evaluation of the detector signal (10),

characterised in that

- a control arrangement (13) is provided which controls the means (12) for guiding the secondary particles as a function of the location of the secondary particles as a function of the location of the emitted secondary particles in such a way that a detector signal is produced which is independent of the location.

12. Apparatus as claimed in Claim 11, characterised in that the means (12) for guiding the secondary particles (9) are formed by deflecting electrodes.

13. Apparatus for testing a substrate with

- means (1) for producing a particle beam (2),

- means (4) for deflecting the particle beam (2) on a specific location of the substrate (8),

- a detector (5) for detecting secondary particles emitted on the substrate by the particle beam and

- an arrangement (11) for evaluation of the detector signal,

characterised in that

- a control arrangement (13) is provided which is connected to the means (4) for deflection of the particle beam and the means (11) for evaluation of the detector signal and the means (11) for evaluation of the detector signal can be controlled in such a way that the location of the emitted secondary particles relative to the position of the detector is taken into consideration during the evaluation of the detector signal.

14. Apparatus as claimed in one of Claims 11 to 13, characterised in that a movable table is provided for retaining the substrate.